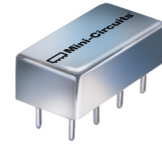


# Plug-In Frequency Mixer

## SBL-1-1+

Level 7 (LO Power +7 dBm) 0.1 to 400 MHz



CASE STYLE: A06

### Maximum Ratings

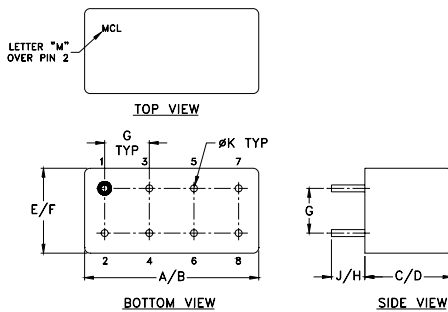
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA
Permanent damage may occur if any of these limits are exceeded.	

### Pin Connections

LO	8
RF	1
IF	3,4^
GROUND	2,5,6,7

^ pins must be connected together externally

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F
.770	.800	.285	.310	.370	.400
19.56	20.32	7.24	7.87	9.40	10.16
G	H	J	K	wt	
.200	.20	.14	.031	grams	
5.08	5.08	3.56	0.79	5.2	

### Features

- excellent conversion loss, 4.84 dB typ.
- high L-R isolation, 45 dB typ. L-I isolation, 40 dB typ.
- rugged welded construction

### Applications

- VHF
- defense & federal communications

**+RoHS Compliant**  
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

### Electrical Specifications

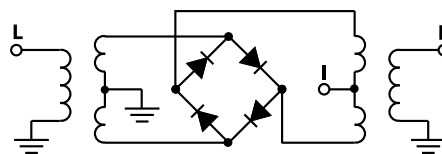
FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)					
LO/RF	IF	Mid-Band m		Total Range Max.	Typ.	L		M		U		L		M		U	
$f_L-f_U$		$\bar{X}$	$\sigma$	Max.		Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.
0.1-400	DC-400	4.84	.04	7.0	8.0	50	45	45	30	35	25	45	30	40	25	30	20

1 dB COMP.: +1 dBm typ. L = low range [ $f_L$  to  $10 f_L$ ] M = mid range [ $10 f_L$  to  $f_U/2$ ] U = upper range [ $f_U/2$  to  $f_U$ ]  
m = mid band [ $2f_L$  to  $f_U/2$ ]

### Typical Performance Data

Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
0.10	30.10	5.97	>67.00	>67.00	1.27	2.30
0.20	30.20	5.50	>67.00	>67.00	1.27	2.24
0.50	30.50	5.10	>67.00	>60.77	1.27	2.26
1.00	31.00	5.03	>67.00	61.39	1.25	2.20
2.00	32.00	4.95	>67.00	61.65	1.23	2.16
5.00	35.00	4.94	>67.00	62.29	1.18	2.11
10.00	40.00	4.92	>67.00	61.63	1.15	2.08
20.00	50.00	5.01	>67.00	61.41	1.12	2.09
50.00	80.00	4.95	57.89	55.93	1.09	2.12
69.83	99.83	4.92	53.82	51.57	1.10	2.18
100.00	70.00	4.82	51.38	49.30	1.11	2.22
121.45	91.45	4.86	50.92	48.83	1.15	2.23
155.86	125.36	4.95	48.48	46.32	1.19	2.35
200.00	170.00	5.08	42.54	40.81	1.22	2.38
224.69	194.69	5.23	42.61	40.35	1.27	2.43
241.90	211.90	5.21	43.39	40.85	1.31	2.44
293.52	263.52	5.32	38.74	36.85	1.34	2.56
327.93	297.93	5.57	37.88	36.40	1.35	2.65
379.55	349.55	5.70	36.54	33.55	1.36	2.75
413.97	383.97	5.75	37.59	34.68	1.35	2.83

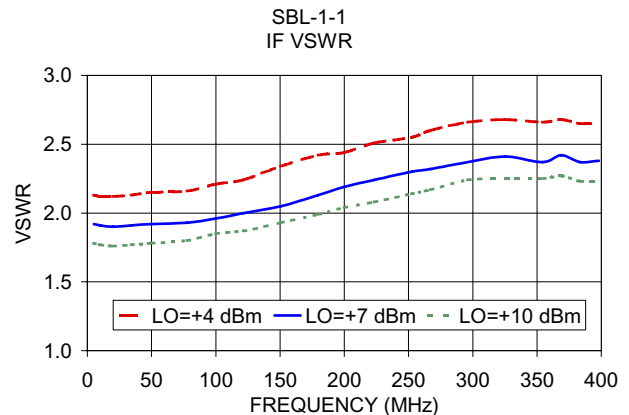
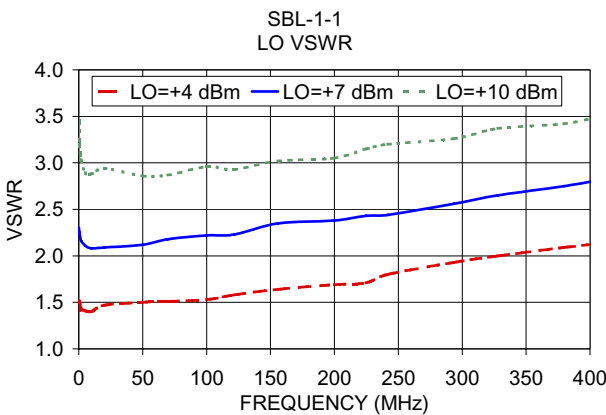
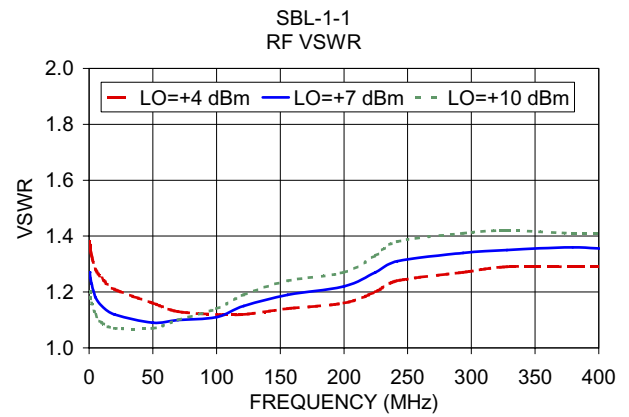
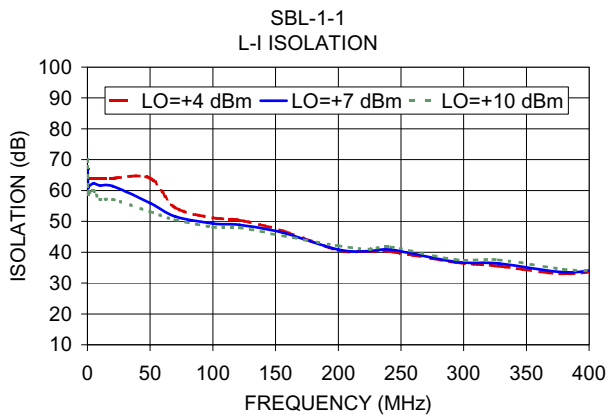
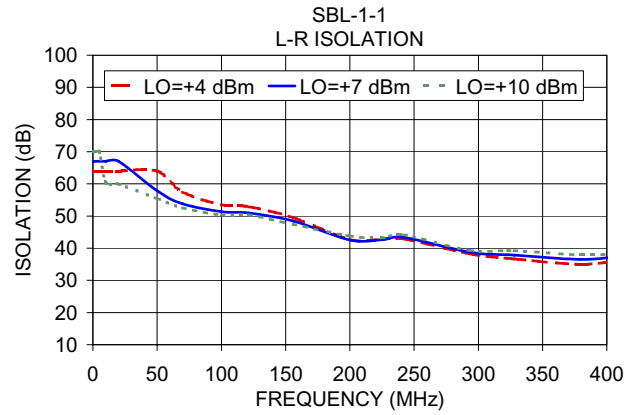
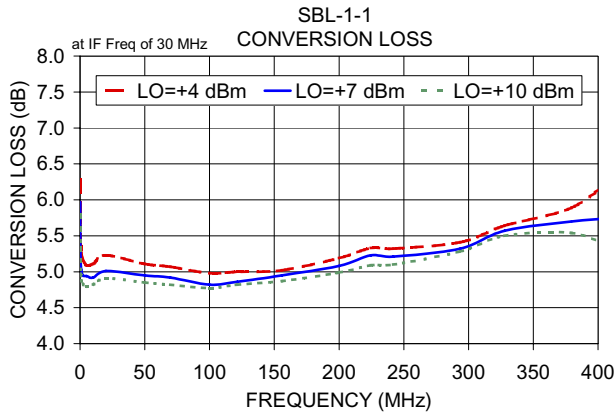
### Electrical Schematic



### Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuit's standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuit's website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)





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